

RUBBER COMPOSITION CONTAINING FUNCTIONALIZED POLYMER NANOPARTICLES

ABSTRACT

A polymer nanoparticle is provided. The nanoparticle includes an inner layer having alkenylbenzene monomer units. The nanoparticle further includes an outer layer having monomer units selected from conjugated dienes, alkynes, alkenylbenzenes, and mixtures thereof. The nanoparticle has at least one functional group associated 5 with the outer layer. Applications of use as additives for rubber, including the rubber compositions, are also provided.